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IN THE

Supreme Court of the United States

OCTOBER TERM, 1945

No. [redacted] 24

HALLIBURTON OIL WELL CEMENTING COMPANY, a Delaware corporation,

Petitioner,

vs.

CRANFORD P. WALKER, and CRANFORD P. WALKER, D. A. WALKER, ROBERT P. MILLER and MILO C. KETCHUM, doing business as Depthograph Company, a copartnership,

Respondents.

BRIEF FOR CRANFORD P. WALKER, et al., RESPONDENTS.

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BRIEF FOR CRANFORD P. WALKER, et al., RESPONDENTS.

QUESTIONS PRESENTED.

The petition for writ of certiorari in this case presents to the Court only two questions to be determined:

(1) Is the doctrine of the case of *General Electric Co. v. Wabash Appliance Corp.*, 304 U. S. 364, condemning the use of indefinite and functional language at the exact point of novelty in a claim of a patent, applicable to a claim on a combination of elements, or should the doctrine be limited as held [R. 1614, 1616] by the Ninth Circuit Court of Appeals, to a claim on a "single element" or "specific product"?; and

(2) Is the doctrine of the case of *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U. S. 211, precluding the giving of a claim of a patent such scope as will include within its terms subject matter rejected and cancelled while the application for patent was pending, applicable to a situation where an inventor files two applications on different species of his invention, the rejection and cancellation taking place in one and the claim in suit issuing in the other?

The real question petitioner is attempting to present to this Court with reference to question (1) is:

> Where an inventor has invented a new machine comprising a novel combination of elements or instrumentalities coacting with each other to produce a new result, and has in the specification and drawing of his patent disclosed one complete embodiment of such combination of elements, has he complied with the requirements of Sec. 4888 of the Revised Statutes *when in his claims he recites each element in terms of "means" followed by a statement of the function which such element performs in coaction with the other elements to achieve the new result?*

As to question (2), the real question which is presented to this Court is:

> Where an inventor in a patent describes and illustrates one embodiment of his invention with sufficient paticularity to satisfy the requirements of Sec. 4888 of the Revised Statutes and has purposely presented claims drawn in language broad enough to read not only upon that one specific embodiment *but also upon equivalents of that one embodiment*, are such claims to be so limitedly construed as to exclude from their

scope an equivalent of the embodiment disclosed in the patent merely because in a later application the Patent Office refused claims to such equivalent, and particularly where such refusal was based on the sole ground that the claims defined no more than the equivalent of the structure disclosed in the patent?

In Petitioner's brief these two questions are confused with arguments directed to questions of patentability over the prior art, anticipation of the claims by the prior art and arguments relating to whether or not the specific structure employed by Petitioner is or is not an infringement of the claims. All arguments except those directed specifically to the two questions raised by the petition for certiorari are immaterial to the decision of this case and such arguments presented in the Petitioner's brief must be disregarded. *General Talking Pictures Co. v. Western Electric Company, Inc.*, 304 U. S. 175.

Therefore, in this brief no attempt will be made to discuss the question of novelty of the patented invention over the prior patents or the question as to whether or not the specific structure employed by Petitioner constitutes an infringement of the claims of the patent in suit.

These latter issues were fully considered and were decided in both the District Court for the Southern District of California and by the Ninth Circuit Court of Appeals, and in accordance with established rules in the Supreme Court of the United States, the concurrent decisions of the lower courts on these questions will not be reviewed where a petition for writ of certiorari presents only specific questions which do not involve these issues. *General Talking Pictures Co. v. Western Electric Company, Inc., supra.*

STATEMENT OF THE CASE.

As stated in the brief of Halliburton Oil Well Cementing Company, Petitioner in this cause, this is a suit for patent infringement based upon the claim by Respondents, Cranford P. Walker, and Cranford P. Walker, D. A. Walker, Robert P. Miller and Milo C. Ketchum, doing business as Depthograph Company, a copartnership, that certain apparatus known as the "Echometer" used by Petitioner, Halliburton Oil Well Cementing Company, constitutes an infringement of Claims 1, 13, 14, 15 and 17 of United States Letters Patent No. 2,156,519, issued to Cranford P. Walker and under which the remaining Respondents are licensed.

The Invention:

Briefly, the invention described and claimed in the Letters Patent in suit relates to an apparatus which may be employed for the purpose of accurately determining how far up in an oil well bore the oil from the surrounding oil bearing formations extends while a pumping apparatus is in the well removing oil therefrom.

To more readily appreciate the problems presented to the inventor, Walker, and the manner in which these problems were solved by the structure disclosed and claimed in the Letters Patent in suit, it must be remembered that an oil well comprises essentially a well bore extending from the ground surface down to an underground oil pool, permitting the oil in the oil bearing sands far beneath the ground surface to enter the well bore, and from which the oil is pumped to the ground surface by means of mechanical pumping devices which are located within the well bore and usually at some depth

therein closely adjacent the point at which the well bore taps the oil pool. The oil in the formation is usually under considerable pressure, either due to the pressure of gases which have been trapped above the oil or due to the pressure effect of water in formations above the oil bearing sands, or both, so that the pressure exerted upon the oil tends to force the oil from the sands into the well bore and upwardly therein to some level considerably higher than the level of the point of entry of the oil into the well bore. In many oil wells the amount of pressure exerted on the oil within the oil bearing formation is sufficient to cause the oil to rise through the well bore completely to the ground surface as a "flowing" well, out of which oil flows without the aid of mechanical pumps or other apparatus for elevating the oil. In other wells, either due to lack of sufficient initial gas and water pressure exerted upon the oil in the oil bearing formations or due to the depletion of such pressure as the well continues to produce oil, the oil fails to flow to the ground surface, and mechanical pumps must be inserted into the well bore to elevate the oil to the ground surface, such pumps being usually suspended upon a string of pipe known as "tubing" comprising a number of lengths of pieces of pipe interconnected by means of couplings or tubing collars.

It has long been known in the oil industry that in wells employing mechanical pumps the natural pressures in the formation will cause the oil to rise in the well bore to some height above the point of entry of the oil into the well bore, and it has also been long appreciated that if the "fluid level" or location of the upper surface of the column of oil within the well bore were known, the pump-

ing apparatus to be employed in any particular well could be most efficiently selected and operated.

When a mechanical pump is employed in the well, it should remove the oil at some rate proportional to the rate at which the oil will flow under natural pressure from the formation, with the result that if the pump is operating with a high degree of efficiency the height of the fluid column in the well will be at a lower level than if the pump is operating at a lesser degree of efficiency and fails to remove the oil as fast as the oil can flow into the well from the formation.

It has long been known in the oil producing industry that if accurate information could be obtained as to the height of the column of fluid in the well while the pump in that particular well was operating to remove oil from the well, such information would be of great value in determining whether or not the pumping apparatus should be changed or whether or not the apparatus then located in the well should be operated at a different speed or at a different length of stroke in order to more efficiently produce oil from the well. Many attempts [R. 66] had been made to locate the fluid levels in such wells, most of which had required the removing of the pumping apparatus from the well, with the result that the fluid level indication which was so achieved did not truly represent the height of the fluid column in the well when the pump was actually operating.

Attempts had been made prior to the invention of Mr. Walker to utilize the principle of sound or acoustical wave reflections from the surface of the fluid column for the purpose of determining how far up in the well such column extended, one of such attempts being illustrated in

the Lehr and Wyatt patent No. 2,047,974 [R. 1101] wherein a quantity of gas under pressure was discharged into the space between the well casing and the tubing at the ground surface, the charge of gas creating a pressure impulse or acoustical wave which would travel down the well and be reflected back to the ground surface from the surface of the column of fluid standing in the well, and a receiving and recording apparatus located at the ground surface was adapted to be actuated by changes in gas pressure within the well casing resulting from the arrival of the echo or reflection of the wave from the fluid surface and so record the initiation of the impulse and later the reception at the ground surface of the reflected echo from the fluid surface.

This apparatus was similar to an apparatus which had been illustrated many years earlier in the prior patent to Batcheller No. 602,422 [R. 1065-1072], in which, in an effort to locate an obstruction in pneumatic tubes, a gun was fired into the tube and a receiving and recording apparatus was employed to receive and record the initial impulse created by the gun and the echo returning at some later time from the obstruction. In both of these previous methods the determination of the distance between the location of the obstruction and the recording apparatus (the distance between the fluid surface and the ground surface) was calculated under the fundamental theories of the speed of sound, namely, that sound would travel a given distance per second and that by measuring the number of seconds or the time interval between the initiation of the impulse and the reception of the echo the distance represented thereby could be mathematically determined.

Lehr and Wyatt discovered, as is explained in their patent, that the speed of sound or the acoustical wave created thereby was not uniform in all wells since the gaseous content and the temperature conditions existing in different wells varied so much that no one formula for the calculation of the relation between the time interval between the initiation of the impulse and the reception at the ground surface of the echo could be used for all wells and, in order to overcome this obstacle to the accuracy of their method and apparatus, they devised a corrective formula which attempted to calculate the speed of sound in any particular well. However, even with the use of the corrective formula, Lehr and Wyatt were unsuccessful in obtaining any accuracy of measurement of the distance between the ground surface and the fluid surface in a well [R. 118].

Mr. Walker [R. 154-158], with a license under the Lehr and Wyatt invention, attempted to commercialize the same and discovered that by securing registrations of echoes from a number of adjacent tubing collars in any particular well, as by recording upon a record chart the successive echoes from a series of successive tubing collars, the chart became self-calibrating for the particular well under test. In other words, the distance occupied by a series of adjacent tubing collar echoes would show the speed of the sound or acoustical wave in that particular well and would act as a measure to determine what was represented by the distance along the chart between the peaks *b* and *d* representing, respectively, the original impulse and the echo from the fluid surface. [See Walker patent 2,156,519, R. 588.]

The patent in suit therefore is directed to the combination of mechanical elements by which the Lehr and

Wyatt previous structure could be made to *successfully* and accurately make a record which could be translated into terms of distance between the ground surface and the location of the fluid surface in the well. In other words, Mr. Walker took the previous Lehr and Wyatt combination of two elements, namely: (a) a pressure impulse producing mechanism (the impulse chamber and quick opening valve) [see Lehr, *et al.* patent No. 2,047,-974, R. 1102-1105], and (b) the recording apparatus (microphone 15, recorder 16 and amplifier 18) *and added a third element, namely, (c) a means for accenting the tubing collar echoes and suppressing undesired noises.* By so doing, Walker converted the Lehr and Wyatt apparatus, which was a failure [R. 156-169], into a successful apparatus for accurately recording the location of fluid levels [R. 87].

The Claims in Suit:

The claims in suit recite this three-element combination discussed above as follows:

> Claim 1: In an apparatus for determining the location of an obstruction in a well having therein a string of assembled tubing sections interconnected with each other by coupling collars,
>
> (a) means communicating with said well for creating a pressure impulse in said well,
>
> (b) echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for

measuring the lapse of time between the creation of the impulse and the arrival at said receiving means of the echo from said obstruction, and

(c) *means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other.*

Claim 13: In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings,

(a) means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from the couplings and other obstructions in said well,

(b) echo receiving and registering means coupled to said well to expose said receiving and registering means to pressure variations produced in said well by echoes from said obstructions,

(c) *and means associated with said receiving and registering means to accent the registration of tubing coupling echoes.*

Claim 14: In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings,

(a) means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from couplings and other obstructions in said well,

(b) pressure responsive echo receiving and registering means coupled to said well to expose said receiving and registering means to pressure variations in said well produced by echoes from said obstructions, and

(c) *interference eliminating means associated with said receiving and registering means for limiting the response of said receiving and registering means to the registration of echoes from actual obstructions in the well whereby the registered echoes of the tubing couplings may be readily distinguished from each other and from the echoes from other actual obstructions in the well.*

Claim 15: In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings,

(a) means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from the couplings and other obstructions in said well,

(b) pressure responsive echo receiving and registering means coupled to said well to ex-

pose said receiving and registering means to the pressure variations produced in said well by echoes from said obstructions, and

(c) *resonance means associated with said receiving and registering means to produce therein a natural acoustical period of oscillation so related to the frequency of the echoes from the tubing couplings as to accent the registration of the tubing coupling echoes.*

Claim 17: In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings,

(a) means communicating with said well for creating therein a pressure impulse to produce echoes of said impulse from the couplings and other obstructions in said well,

(b) pressure responsive echo receiving and registering means having

(c) *a natural frequency of oscillation so related to the frequency of the echoes from said tubing couplings as to accent the registration of said echoes,* and

(d) means interconnecting said receiving and registering means to said well to expose said receiving and registering means to pressure variations in said well.

SUMMARY OF ARGUMENT.

1. Where an invention resides in a novel combination of a plurality of apparatus elements combined in such a way that a new result is achieved, the requirements of Sec. 4888 of the Revised Statutes are fully met by reciting each apparatus element as "means" followed by the necessary limiting statement of the function that the "means" is to perform in coaction with the remaining elements, as established in the doctrines stated in *Continental Paper Bag Company v. Eastern Paper Bag Company*, 210 U. S. 405, 28 S. Ct. 748, and subsequent cases citing the same.

2. Where the specification describes only one embodiment of the invention, the only way in which the inventor may obtain any coverage of equivalents of that one embodiment is to define the invention in the claims as a combination of different "means" with a statement of the function each "means" performs in coaction with the other "means" to produce the new result. Otherwise, the claims would have to recite the specific details of the particular embodiment disclosed, which would evidence that it was the intention of the patentee to limit his protection to the specific embodiment described and illustrated.

3. The doctrine of *General Electric Co. v. Wabash Appliance Corp.*, 304 U. S. 364 does not apply to the instant case because the facts in the *General Electric Co.* case were that neither the claims nor the specification contained a sufficient teaching as to how to practice the alleged invention and the claim in that case was a "single means" claim wherein the criticized functional statement was the only attempt at a definition of the *entire invention*, whereas in the instant case the facts are (a) that the teaching of the specification is clear and distinct, and (b)

the claims are combination claims wherein the terms of the claims clearly and distinctly define what is new and protected by them.

4. The doctrine of the *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U. S. 405 applies to the instant case and to hold otherwise requires this Court to overrule that case.

5. The facts of the instant case are so different from those in the case of *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U. S. 211, that the doctrine of that case does not apply here.

6. Patentee's acquiescence, in a later application, that electrical apparatus was the equivalent of the mechanical apparatus disclosed in the patent in suit does not limit the scope of the claims of the patent in suit to exclude electrical equivalents thereof.

ARGUMENT.

Argument as to Question No. 1:

It is the position of respondents as to question No. 1 that the facts of the instant case clearly and definitely distinguish this case from the *General Electric v. Wabash* case and that in that case the Supreme Court did not intend to overrule the principles and doctrines which it had previously laid down in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U. S. 405 with reference to claims to a combination of elements.

In the instant case the Ninth Circuit Court of Appeals twice considered the facts of the present case and compared them with the facts and the decision of the *General Electric Co. v. Wabash Appliance Corp.* case and twice found that the two cases were clearly distinguishable.

At the original hearing before the Ninth Circuit Court of Appeals, Petitioner urged that the claims in suit were indefinite and functional at the point of novelty in that the definition of the new element which had been added to the previously unsuccessful two-element combination disclosed in the Lehr and Wyatt patent merely recited this new element as a "means" followed by the statement of the function the new element was to perform in combination with the two old elements of the combination previously disclosed by Lehr and Wyatt. The original decision of the Ninth Circuit Court of Appeals states [R. 1599-1600]:

> "Walker made a very substantial improvement over Lehr and Wyatt, notwithstanding it is conceded that both his recorder and his amplifier, considered by themselves, are old in the art. We think the patentee displayed a measure of inventive genius entitling him to patent protection. He has combined features which achieve a new result, or at least an old result in a better way. Cf. Bates v. Coe, 98 U. S. 31, 39; Walker on Patents (Deller's Ed.) Vol. 1, p. 255, and cases there cited.
>
> "Other prior patents cited by Halliburton, as for example the patent of Tucker, No. 1,351,356, which was to aid in locating the source of gunfire, were not designed to perform the same function as Walker's tuning device, and would not, without the addition of other elements, serve the purposes of the Walker patent. The Tucker patent mentioned was among the examples of the prior art cited by the examiner. We think, too, that Walker specified and claimed his improvements with sufficient distinctness and clarity to comply with the statute."

Upon Halliburton Oil Well Cementing Company's petition for rehearing, the Ninth Circuit Court of Appeals again considered whether or not the cases of *General Electric v. Wabash* and *Davis Sewing Machine Co. v. New Departure Mfg. Co.* were applicable to the claims of the patent in suit, and in its opinion denying the petition for rehearing the Ninth Circuit Court stated [R. 1614]:

> "In its petition for rehearing appellant, Halliburton Oil Well Cementing Company, assumes that the court in ruling on Walker's patent No. 2,156,519 failed to consider the cases of General Electric Co. v. Wabash Appliance Corp., 314 U. S. 364, and Davis Sewing Mach. Co. v. New Departure Mfg. Co., 217 Fed. 775, particularly the first of these decisions. Halliburton is mistaken. In the General Electric case the claim considered was not one for a combination of elements, but a claim for a single element. Here, the claims are for a combination of elements. They sufficiently define the limits of the invention to enable those having knowledge of acoustics and of the principles of the physics of sound to determine what is covered and what is beyond the scope of the claimed invention."

In the latter opinion, Judge Denman of the Ninth Circuit Court, in concurring in the denial of the petition for rehearing, stated [R. 1614-1616]:

> "Appellant's principal contention on its petition for rehearing concerns the patenting of a combination of functional means such as claimed in typical claims 1 and 14, cited in the opinion.
>
> "Claim 1 is for a combination in
>
> "(A) 'an apparatus for determining the location of an obstruction in a well having therein a string

of assembled tubing sections interconnected with each other by coupling collars'

of the following three 'means,' with

"(B) 'means communicating with said well for creating a pressure impulse in said well,' and

"(C) 'echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for measuring the lapse of time between the creation of the impulse and the arrival of said receiving means of the echo from said obstruction,' and

"(D) 'means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other.'

"Each of B, C and D describes a function but, appellant contends, fails to describe how the apparatus is to perform the function, as required by R. S. 4488, 35 U. S. C. Sec. 33, cf. General Electric Co. v. Wabash, 304 U. S. 364, 368.

"No case is cited in which such a combination of means alone has been sought and the case seems of novel import. It is apparent that a combination of three means is valid only if a combination of all the various means for accomplishing each of the three functions is to be deemed included in the claim. It would establish invalidity of the patent if prior thereto any one of the several means of each of the all-inclusive means so had been combined.

"Appellant has shown no such prior combination of any one of each of the three means. General Electric Co. v. Wabash, *supra*, is distinguishable. Unlike the instant patent for a combination, the patent there was for a specific product and its production was described

in functional instead of a specific physica determinant. Since the combination of all such means has novelty and usefulness, I agree in the denial of the petition for rehearing."

In order to distinguish the principles involved in the present case from those which were considered by the Supreme Court in the *General Electric Co. v. Wabash Appliance Corp.* case, it is believed to be necessary only to compare the facts presented to the Court in the *General Electric Co.* case with those presented to the Court in the instant case.

The claim under consideration in the *General Electric Co.* case being a "single means" claim, recited as that "single means" a filament in which the grain structure of the filament was "made up mainly of a number of comparatively large grains of such size and contour as to prevent substantial sagging and offsetting during a normal or commercially useful life of such lamp or other device." The claim therefore did not of itself place any distinctive and definite limit as to what grain sizes could accomplish the result or the function desired. Certainly the claim did not set out with any definiteness how a person attempting to practice the alleged invention could determine beforehand what grain sizes would work and what other grain sizes would not work. In other words, so far as the claim sets forth and defines the invention in the Pacz patent, any person attempting to practice the invention would be required to conduct a series of experiments on filaments employing an infinite number of grain sizes until, by a laborious process of elimination, a successful filament was finally produced.

It is believed that the reason the Supreme Court held that this claim was invalid as indefinite and functional was because the claim failed to point out and to teach the art what was necessary to accomplish the desired result and left the public completely unadvised as to how to practice the alleged invention. In the *General Electric Co.* case even the disclosure in the specification was similarly lacking in any definite disclosure upon which a person attempting to practice the invention could rely with any assurance that by following the alleged teachings in the specification, a successful filament could be constructed.

Briefly stated, in the *General Electric Co. c. Wabash Appliance Co.* case, the patent under consideration was not only indefinite as to the teaching and disclosure in the specification to the extent that it failed to apprise the public as to what was necessary to permit the public to practice the alleged invention, but the claim also failed to contain language upon which the public could depend in an attempt to determine what were the limits the patentee had intended to place upon the protection granted to him.

The Court, in holding that the claim was invalid for the reasons that at the very point of novelty (the definition of the grain structure which the inventor claimed was the essential feature of his alleged new filament) the language which was selected left the public utterly uninformed, arrived at a sound decision based upon the facts of the case which were then before it. Unquestionably an inventor who has invented or discovered a new product which is allegedly successful, must, under the fundamental principles of our patent law, set forth in his specification and in his claims a teaching of sufficient particularity that it may be followed by those who later desire

to practice the invention and to achieve the result which the inventor claims is accomplished by his new discovery.

In the instant case, the inventor Walker states in his specification what the problem is which he seeks to solve; namely, the location and measurement of the height of the fluid level in a well, and in his specification he describes in clear and distinct language one embodiment of the invention which he has made for the purpose of solving that problem.

Walker defined his new contribution to this art as the combination of three distinct elements, coacting together to produce this result, namely:

(a) a means for creating the pressure impulse in the well capable of producing echoes or reflections from successively encountered obstructions in the well;

(b) a receiving and registering device to be located at the ground surface so exposed to the gas pressure existing in the well as to be effected by the gas pressure changes or disturbances resulting from the arrival at the ground surface of the reflections or echoes from the various obstructions in the well with a registering or recording mechanism for recording the successive times of arrival of the echoes from the successively encountered obstructions; and

(c) *a means associated with the first two elements which would tend to suppress undesirable and unwanted noises and reflections and tend to cause the accurate registration upon the record of the desired echoes, namely, those from the tubing collars and the fluid surface.*

In the instant case, having disclosed one embodiment of his complete three-element combination, the only way in which the applicant could define his new contribution

as distinguished from the previous two-element combinations, such as shown in the prior patents to Lehr and Wyatt [R. 1101] or the Batcheller patent [R. 1065] with any degree of breadth, was by the recitation of the three elements in terms of mechanism or "means" followed by the statement of the function each of the elements is to perform in the complete combination.

The present case therefore clearly distinguishes on the facts from the *General Electric v. Wabash Appliance* case. In the instant case there is a clear and complete disclosure whereas in the *Wabash* case there is an incomplete and ambiguous disclosure. In this case the claims are "combination" claims and the functional statements criticized serve as clear definitions of the individual elements of the combination and their cooperative relation to the other elements whereas in the *Wabash* case the claim was only a *single means claim* and the indefinite and functional statement criticized was a functional definition of the entire invention intended to cover any and all ways of accomplishing the ultimate result of making a non-sagging filament, without expressing how this result was to be achieved.

On the facts presented in the instant case the principles expressed in *Continental Paper Bag Company v. Eastern Paper Bag Company*, 28 S. Ct. 748, appear to be controlling. In the *Continental Paper Bag* case, the question which was presented to the Court was that of a combination of elements of a machine employed for the purpose of making a particular kind of paper bag, and the Supreme Court found that in the patent under consideration there, the inventor had sought to comply with Section 4888 of the Revised Statutes by filing a descrip-

tion of his invention in which he explained its principle and the best mode in which he contemplated applying that principle. Looking to the claims, the Supreme Court found that the inventor did not intend to give up all other modes of application of those principles of the invention and at page 751 the Court states:

> "An inventor must describe what he conceives to be the best mode, but he is not confined to that. If this were not so most patents would be of little worth. 'The principle of the invention is a unit, and invariable; the modes of its embodiment in the concrete invention may be numerous and in appearance very different from each other.' 2 Robinson, Patents, Sec. 485. The invention, of course, must be described and the mode of putting it to practical use, but the claims measure the invention. They may be explained and illustrated by the description. They cannot be enlarged by it."

At Page 752, the Court continues:

> "Counsel, however, contends that the circuit court, in its decision, virtually gave Liddell a patent for a function by holding that he was entitled to every means to cause the forming plate to oscillate about its rear edge.
>
> "The distinction between a practically operative mechanism and its function is said to be difficult to define. Robinson, Patents, Sec. 144, et seq. It becomes more difficult when a definition is attempted of a function of an element of a combination which is the means by which other elements are connected and by which they coact and make complete and efficient the invention. But abstractions need not engage us. The claim is not for a function, but for mechanical means to bring into working relation the

folding plate and the cylinder. This relation is the very essence of the invention, and marks the advance upon the prior art. It is the thing that never had been done before, and both the lower courts found that the machines of the Continental Company were infringements of it. It is not possible to say that the findings of those courts on that fact or on the fact of invention were clearly wrong, notwithstanding the great ability of the argument submitted against them."

The principle laid down in the *Continental Paper Bag Company* case has been consistently followed by the District Courts, the Circuit Courts of Appeals, the Court of Customs and Patent Appeals and by the United States Patent Office in determining the proper wording of claims which are directed to a combination of elements which go to make up a unitary machine. In *Davis Sewing Machine Co. v. New Departure Manufacturing Co.*, 217 Fed. 775, the Court, when presented with claims which were directed to a combination of elements defined as "means" followed by statements of function, stated at page 782:

> "But where used with reference to the make-up of the field in which the real invention finds its usefulness or with reference to the connecting parts which permit the salient novelty of the invention to accomplish its function, these words are only a convenient formula of the broadest equivalency of which the real invention permits. Their use amounts to a statement by the inventor that, as to this element, the claim is not confined to the form shown, nor to any close imitation of that form, but extends as broadly as is consistent with the extent of his inventive step to all forms accomplishing that part of the ultimate, composite result, and, of course, does

not, of itself, prevent the court (where the state of the record requires) from interpreting the claim as limited to a more or less close approximation to the 'means' described in the specification. Rich v. Baldwin (C. C. A. 6) 133 Fed. 920, 923, 66 C. C. A. 464; Kellogg Co. v. Dean Co. (C. C. A. 6) 182 Fed 991, 1003, 105 C. C. A. 545.

"That the Supreme Court has not intended, either in the Westinghouse-Boyden Case or in other instances where claims have been held void because functional, to predicate this result merely on the presence of the word 'means,' 'mechanism,' etc., is apparent. In *Morley Co. v. Lancaster,* 129 U. S. 263, on page 286, 9 Sup. Ct. 299, 32 L. Ed. 715, there was an extreme instance. The claim was for the combination of three elements: 'Button-feeding mechanism; appliances for, etc.; and feeding mechanism.' The objection that this and other similar claims were void on their face because for a function could not have escaped the attention of Mr. Justice Blatchford, who wrote the opinion sustaining their broad validity; indeed he expressly said that these claims were not for the result or effect, irrespective of the means employed. The case being, however, one of the class where the vital point of the invention — the making of the combination of these different sets of mechanism — was expressed in these general terms, it was ruled that they did not cover every possible means, but yet must be treated as terms of very considerable scope and inclusiveness. In the latest reported decision touching this point, Paper Bag Patent Case, 210 U. S. 405, 422, 28 Sup. Ct. 748, 752 (52 L. Ed. 1122), the claim called for the combination of 'a rotating cylinder, forming plate, and 'operating means for the forming plate adapted to

cause the said plate to oscillate about its rear edge, etc.' (The claim included other mention of 'means' as elements, but this is the one to which the opinion refers.) It was argued that, by extending the patent to cover a device in which the defendants used very different means of causing a forming plate to oscillate about its rear edge, the court below had given the patentee a patent for a function. The Supreme Court held, in effect, that the use of these general terms is not objectionable in cases where the element so identified serves to provide a 'working relation' for what may be called the more primary elements of the combination.

* * * * * * * *

"The Patent Office practice, in the shaping of claims with reference to these phrases, has vacillated. After some of the early court decisions disapproving the particular uses of these words which were involved in the cases decided, the Patent Office was inclined to forbid their use; but this confusion later settled down into the clearly established rule that these words would not be permitted where the novelty of the invention was in the specific mechanism to which they were intended to refer, but would be approved when they described 'mere adjunctive devices which connect or give co-operation to the various elements or features of the invention, but are in themselves no actual controlling part of it.' Ex parte Paige, 40 O. G. 807, 810; Ex parte Pacholder, 51 O. G. 295; Ex parte Halfpenny, 73 O. G. 1135. Pursuant to this rule regulating the 'substantive' and the 'adjunctive'— which we consider only another form of words for the distinction we have expressed —the great majority of patents during the last few years have contained claims identifying certain elements as for 'means,' 'mechanism,' 'devices,' etc.

"In none of the cited decisions of this court especially relied upon in argument do we find any holding that a claim calling for 'means' is thereby, and thereby only, made functional; but, if there were any such holding, it must yield to the rule of the Paper Bag Case. These considerations demonstrate to us that the call of claim 19 for 'a brake mechanism' does not make the claim functional or invalid, and that this claim is infringed. The same considerations govern the use of similar phrases and terms in claims 25-30."

Innumerable cases could be cited in which approval of the principle of permitting the inventor of a new combination to describe and define his invention in terms of "means" followed by the statement of the function the means performs in the particular combination recited in the claims, for example, *Gilchrist Co. et al., v. KarLac Co., et al.*, 29 F. (2d) 153, 154, C. C. A. 7, 1928, and *Apex Electrical Mfg. Co. v. Maytag Co., et al*, 122 F. (2d) 182, 187.

This principle which has been consistently followed by the Patent Office and by the courts is most ably stated by Judge L. Hand in *Buono et al., v. Yankee Maid Dress Corporation*, 77 F. (2d) 274-277 (C. C. A. 2, 1935):

"The only debatable matter is of the language of the claims themselves; it is the old question of how far a claim may safely be cast in terms of function. * * * The other elements of claim 6 except a single one are in mechanical terms referable to the disclosure, and are clearly not functional. The exception is, 'operating means connected to said eccentric device and turning said pivoted device at predetermined intervals.' This too is readily enough identified by the disclosure, and though it does speak in terms

of function that is inevitable to some degree, if the claim is to have any generality whatever. The very test of equivalency is in terms of function, 'the same result by the same means,' and it is only by recourse to that standard that a patentee can pass beyond the very details of his disclosure."

It is repeated therefore that what Petitioner is attempting to do in the instant case is to have this Court overrule the *Paper Bag* case and to establish a doctrine that where an inventor has devised a new and novel combination of elements and has, in the language chosen to express the elements of the new combination, employed the expression "means" followed by the statement of the function each of the elements performs in cooperation with the other elements of the combination, such choice of expression recites only the "function" and does not recite the mechanism with sufficient particularity to distinguish his invention from the prior art. If Petitioner's position is to be adopted by this Court, then it follows that no matter how meritorious an invention may be, no matter how much of an advance in the art the contribution of the inventor may be, the scope of the protection granted by his patent is only such as to cover that one specific embodiment employed by him to illustrate and describe the new contribution.

In the instant case, this would mean that even though Walker, by his addition of the new third element to the previously unsuccessful two-element combination, achieved success in the accomplishment of a result which had long been desired by the oil industry, he would be limited in the scope of the protection given him under his patent *to the particular adjustable length of pipe 18* (which he

illustrates and describes as one form of means by which the undesired noises and disturbances could be filtered out), as the means for solving the problem of determining in any particular well what the velocity of sound or pressure waves is in that well.

Petitioner bases its contention in this respect upon the fact that in the *Wabash* case the language used by the Supreme Court was a condemnation of the employment by the inventor of *indefinite* language to define the single element of novelty. In the instant case there is no indefiniteness. Certainly there is no question which could be raised by anyone skilled in the science of sound or acoustics as to what was intended to be covered by the claims of the patent in suit. The specification clearly presents the solution for the problem as consisting of the addition to the previous pressure impulse producing devices and the previous echo recording devices of a filtering mechanism which would perform the function of eliminating the interferences which had prevented the previous devices from being successful, and thereby permit the registration of tubing collar echoes, which would, by their position on the record chart, make the chart a self-calibrating record with respect to the speed of sound or pressure waves in the particular well upon which a particular record was being made.

That the language of the claims of the patent in suit was not indefinite is readily demonstrated by the fact the lower court had no difficulty in determining from the language of the claims what was intended to be covered thereby and found that the contribution which had been made by Mr. Walker was the addition to the previously unsuccessful devices of the third element of the Walker

claims which made a new combination and accomplished a new result.

In the instant case the Court is not presented with the same or corresponding facts as were considered in the *General Electric v. Wabash* case, but instead this Court is presented with facts which are readily distinguishable. In the *Wabash* case, neither the specification nor the claims constituted a guide to those skilled in the art, which would enable them to practice the invention, whereas in the instant case the principles disclosed in the specification are clear and definite. These principles are that in a sonic method of locating fluid levels in oil wells by recording echoes of a pressure impulse from a plurality of tubing collars and from the fluid surface in a well, such record may be made accurate and intelligible by utilizing the third element recited in the claims in suit, namely, a means for suppressing undesired disturbances and for filtering out of the record noises and disturbances which would prevent the accurate and clear registration of the tubing collar echoes.

The particular mechanism described in the specification and illustrated in the drawings of the patent in suit is a mechanical embodiment of these principles.

Once the patentee Walker had disclosed that the solution for the problem of obtaining tubing collar echoes as a means for calibrating the record chart was to employ a noise suppressing or filtering apparatus, it was obvious to those skilled in the science of sound that the filtering and noise suppression could be accomplished either acoustically, as specifically disclosed in the Walker patent in suit, or by converting the sound or acoustical waves into electrical impulses and then filtering the electrical impulses so produced.

Conclusion as to Question No. 1:

It is clear that the doctrine of the *General Electric Company v. Wabash* case was correct in that the patent of that case presented a claim and a disclosure, neither of which acted as a guide to the public as to what was required to practice the invention and what was intended to be covered by the claim of the patent.

It is equally clear that the doctrine stated in the *General Electric v. Wabash* case does not apply to the instant case wherein the invention involved relates to the combination of a plurality of elements which go to make up a complete unitary combination in which each of the elements coasts with the others to produce a new result *and wherein each of the elements is defined by such terms as "means," followed by the statement of the specific function each of them is to perform in cooperation with the other elements of the combination.* In accordance with the holding in the *Continental Paper Bag* case, such claims are definite and do constitute a clear statement to the public as to what is required for the practice of the invention and what is intended to be covered by the subject matter of the claim.

Argument as to Question No. 2:

With regard to the second question presented by Petitioner as to whether or not the principles expressed in *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U. S. 211, 61 S. Ct. 235, should apply or be extended to cover the situation presented in the instant case, it should be pointed out that the facts in the *Schriber-Schroth* case and the instant case are different, as is admitted by Petitioner on page 67 of its brief. No case has been found by Petitioner in which this or any other Court has con-

sidered the situation involved in the instant case (see Petitioner's brief, page 69).

Briefly stated, the facts in the *Schriber-Schroth* case were that the patentee filed an application for patent asserting certain claims which, during the prosecution of the application, were rejected, and as a result of such rejection the patentee cancelled those claims from the application *without inserting other claims of the same scope*, and the patentee took out his patent with claims of more limited scope than those which had been originally presented and cancelled. In a subsequent suit for infringement of the patent, the patentee, suing on the more limited claims which he had accepted from the Patent Office, attempted to assert a scope for these limited claims which would make them so broad as to be equal in scope to the claims which had been rejected and had been cancelled from the application.

Obviously, under the principle that a patent is a contract and that the patentee is bound by the terms of the contract as it is finally consummated (by the grant of the patent to the inventor), the inventor is estopped from asserting that the terms of the contract are sufficiently broad to incorporate material which he had attempted to get into the contract but was unsuccessful in so doing. There appears to be no reason to question the correctness of the ruling in the *Schriber-Schroth* case since it is in conformity with well established legal principles and leads to a just result.

In the instant case, no such set of facts exists. The patentee Walker filed the application for the patent in suit, illustrating as one embodiment of his invention an arrangement of mechanical structures cooperating together to produce the result of obtaining a recording of the

location of the fluid level in an oil well which could be accurately interpreted by reason of the employment of a noise suppressing and filtering mechanism which permitted the recordation on the same record chart of a plurality of tubing collar echoes which would render the record chart self-calibrating as regards the speed of sound or acoustical waves in the particular well under measurement. In the application which resulted in the patent in suit, the patentee asserted claims such as the claims in suit which were sufficiently broad in their language to not only cover the exact mechanical devices illustrated and described in the specification but also to cover equivalents of these mechanical structures.

The patentee then filed a second application, in which he illustrated another specific embodiment of apparatus designed to produce, among other things, a record of the fluid level in an oil well, together with a record of a plurality of echoes from adjacent tubing collars as a means for self-calibrating the record chart. The apparatus disclosed in the second application for receiving and recording the echoes was an "electrical" apparatus as distinguished from a mechanical diaphragm and light beam recorder disclosed in the first application. In addition, the apparatus disclosed in the second application for filtering out and suppressing the undesirable noises and disturbances (for permitting the clean-cut and accurate registration of tubing collar echoes) was likewise an electrical apparatus as distinguished from the mechanical appartus (the pipe 18) which was disclosed in the first application.

At the time of filing the second application, the patentee Walker asserted claims in that application such as Claim 15, directed to the feature of employing, with the electrical

receiving and recording apparatus, a tuning means by which the receiving and recording mechanism was caused to respond more readily to echoes from selected obstructions in the well (tubing collars) than to gas pressure variations existing in the well emanating from other sources (such as noises).

Petitioner's position with respect to the second question presented to this Court is that because during the prosecution of the second application Mr. Walker finally acquiesced in the rejection of the subject matter of the scope of Claim 15 in that application, such acquiescence should be construed as an admission on the part of the patentee Walker that his first patent was not sufficiently broad to cover electrical apparatus such as that used by Petitioner and which has been found by the lower courts to be an infringement of the claims of the patent in suit.

In support of this position, Petitioner points out that in the second Walker application Claim 15 was directed to an electrical apparatus and would have read directly upon the apparatus employed by Petitioner, and that this Claim 15 was rejected upon the prior patent to Lehr and Wyatt. In response to such rejection, Claim 15 was cancelled. Petitioner reasons therefore that the cancellation of Claim 15 constituted an abandonment by Mr. Walker of an attempt to cover an electrical apparatus such as that used by Petitioner.

The fallacy of this position is demonstrated by a consideration of the file history of the second Walker application Serial No. 164,534 [R. 953-1063].

The subject matter which Petitioner states was abandoned by Walker by the acquiescence in the Patent Office rejection was actually not abandoned nor was any re-

jection thereof acquiesced in by Walker until the Patent Office had rejected this subject matter *as being the equivalent of the subject matter covered by the earlier Walker patent* (the patent in suit).

Claim 15, which is referred to by Petitioner as constituting this subject matter, was presented in the second application as originally filed [R. 982]. In the first action by the Patent Office this claim was rejected on the Lehr and Wyatt patent [R. 1002]. However, Walker did not abandon this subject matter though he did cancel the specific wording of this subject matter as it appeared in Claim 15. Upon amendment in response to the first Office action, Walker asserted Claim 25 as a substitute for original Claim 15, the subject matter of Claim 25 being an attempt on Walker's part to continue the assertion of claims of the same scope as Claim 15 [R. 1006, 1015.]

In the next action by the Patent Office, Claim 25 was rejected as being "indefinite" and "functional" [R. 1019-1020] but on this second action the Examiner apparently withdrew the rejection of the subject matter as unpatentable over the Lehr and Wyatt patent and, in fact, stated that the application contained patentable subject matter. In response to the second Office action, amendments and explanations were made with respect to Claim 25, the patentee Walker still insisting upon his right to receive a patent upon the subject matter of Claim 25 which had been substituted for Claim 15 [R. 1022, 1027].

Prior to the next action by the Examiner, another amendment was made to the application [R. 1030-1043], in which Claim 25 was canceled and new Claim 35, directed to the same subject matter as original Claim 15,

was inserted in the Walker application with an explanation [R. 1043] that new Claim 35 was directed broadly to this subject matter which up to that time the patentee Walker had considered he was entitled to cover in the new application.

It was only after the rejection [R. 1056] of Claim 35 as being unpatentable over Walker's own patent No. 2,156,519 (the patent in suit) and the explanation by the Examiner [R. 1058] that the electrical tuning mechanism recited in Claim 35 was the mere electrical equivalent of the mechanical tuning shown in the earlier Walker patent (the patent in suit) that Walker finally acquiesced in the rejection of the subject matter of Claim 15, for which Claims 25 and 35 had in turn been substituted.

This history therefore shows that Walker had at no time during the prosecution of either the first application which resulted in the patent in suit nor the second application, acquiesced in any holding by the Patent Office that he was not entitled to claims having a scope sufficient to cover electrical apparatus as an equivalent of the specific mechanical apparatus illustrated and described in the patent in suit.

As was stated in Respondents' brief opposing the petition for certiorari, the position which has been taken by Petitioner with respect to the facts of the instant case in an attempt to extend the doctrine of the *Schriber-Schroth* case to cover the facts of the instant case leads to an absurdity in that if Petitioner's position is sustained by this Court it will mean that a patentee who devises a new invention, a new piece of apparatus or a new combination, and applies for a patent thereon, will be effectively prevented from seeking to improve upon that

invention and attempting to secure patent protection upon the improvement by the fear that if the improvement is rejected by the Patent Office the proceedings involved in the second application will be employed to construe and interpret what was intended between the applicant and the Patent Office in the grant of a patent upon his first application. Thus it would follow that an inventor, after filing an application for patent and receiving a patent thereon, would be afraid to file a subsequent application on what he considered might be a further improvement, no matter how important or meritorious it might be, for fear that during the prosecution of the second application limitations would be imposed upon his first patent which were obviously not intended by either the inventor or the Patent Office at the time of the grant of his first patent.

Conclusion as to Question No. 2:

Petitioner's argument is based upon a misinterpretation of the facts. The subject matter canceled from the second application was not so canceled as unpatentable over the prior art but was canceled because it was shown that the subject matter was only the equivalent of the subject matter already covered by the claims of the patent in suit.

To sustain the position taken by Petitioner would, in effect, establish a rule whereby a patentee would not dare to file subsequent applications to cover what he thought were improvements for fear that the cancellation of a narrow claim from the improvement application would impose a limitation on his earlier patent claim, preventing him from covering subject matter more limited than was expressed in the claims of his earlier patent.

Conclusion.

As to Question No. 1:

1. The claims of the patent in suit are not invalid as functional since they are combination claims in which each of the elements is sufficiently defined as approved in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U. S. 405.

2. Claims to a combination are not invalid merely because they recite each of the elements thereof in terms of "means" followed by a limiting statement of the function the individual element performs in coaction with the other elements of the combination.

3. The facts of the instant case make the doctrine applied in the *General Electric Co. v. Wabash Appliance Corp.* inapplicable in that both the specification and the claims clearly define the novelty sought to be protected, whereas in the *General Electric Co.* case neither the specification nor the claims particularly pointed out what would accomplish the desired result and what would not.

As to Question No. 2:

1. The claims of the patent in suit are not to be given such limited construction as to exclude them from covering electrical equivalents of the mechanical devices disclosed in the specification and drawings of the patent in suit.

2. The claims of the patent in suit were intended by both the inventor and the Patent Office to be sufficiently broad to cover the electrical equivalents of the mechanical structure disclosed in the patent.

3. Walker's abandonment of an attempt to obtain specific claims in a second application on electrical equiva-

lents of the mechanical device disclosed in the patent in suit was not an admission on the part of the patentee that the first patent was not sufficiently broad to cover electrical equivalents, but instead was merely an acknowledgment that since the first patent (the patent in suit) contained claims sufficiently broad to cover electrical equivalents, the patentee did not need a second patent covering identically the same subject matter.

It is therefore submitted that the decision of the Circuit Court of Appeals should be affirmed.

Respectfully submitted,

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Los Angeles, December 27, 1945.